

(12)

(21) **2 485 238**

(51) Int. Cl. 7: **G06F 17/60, H04L 12/54**

(22) **21.07.1998**

(30) **08/897,777 US 21.07.1997**

(60) **14.12.2004**

(62) **2301664**

(71)

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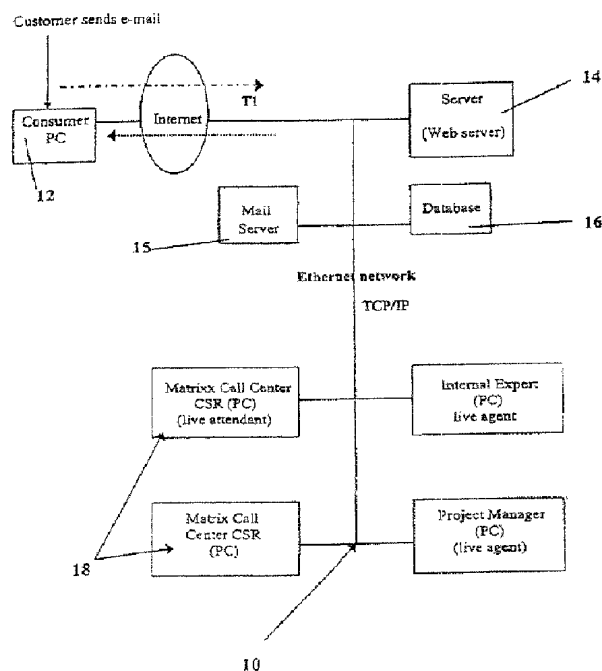
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(54) **SYSTEME DE GESTION DE MESSAGES ELECTRONIQUES**

(54) **ELECTRONIC MESSAGE MANAGEMENT SYSTEM**

(57)

An electronic message, or e-mail, management system having a digital computer for accepting e-mail messages; a program interface for automatically transferring received electronic messages to a database; a structured database for storing the received electronic messages in a determined format; and an interface for allowing a customer service representative, at a remote computer, to access, and respond to, the electronic messages stored at the database.





(22) Date de dépôt/Filing Date: 1998/07/21

(41) Mise à la disp. pub./Open to Public Insp.: 1999/01/28

(62) Demande originale/Original Application: 2 301 664

(30) Priorité/Priority: 1997/07/21 (08/897,777) US

(51) Cl.Int.<sup>7</sup>/Int.Cl.<sup>7</sup> G06F 17/60, H04L 12/54

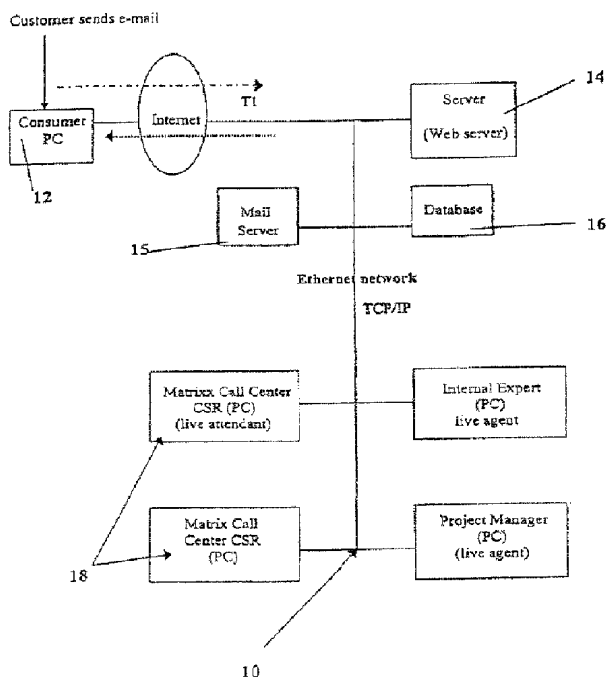
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(54) Title: ELECTRONIC MESSAGE MANAGEMENT SYSTEM



(57) **Abrégé/Abstract:**

An electronic message, or e-mail, management system having a digital computer for accepting e-mail messages; a program interface for automatically transferring received electronic messages to a database; a structured database for storing the received electronic messages in a determined format; and an interface for allowing a customer service representative, at a remote computer, to access, and respond to, the electronic messages stored at the database.



**WORLD INTELLECTUAL PROPERTY ORGANIZATION**  
International Bureau

(51) International Patent Classification <sup>6</sup> : G06F 17/00	A2	(11) International Publication Number: WO 99/04347
		(43) International Publication Date: 28 January 1999 (28.01.99)

**Published** *Without international search report and to be republished upon receipt of that report.*

The diagram illustrates a network architecture. A central Ethernet network (10) is connected to various components. On the left, a Consumer PC (12) connects to the Internet (14) via a T1 line. The Ethernet network (10) is a central hub connected to a Mail Server (15), a Web server (14), a Matrix Call Center CSR (PC) (live agent) (18), a Matrix Call Center CSR (PC) (18), a Project Manager (PC) (live agent), and a Project Manager (PC) (live agent). The network is labeled 'Ethernet network' and 'TCP/IP'.

## ELECTRONIC MESSAGE MANAGEMENT SYSTEM

This application is divided from Canadian Patent Application Serial No. 2,301,664, filed July 21, 1998.

### 5                    BACKGROUND AND SUMMARY OF THE INVENTION

The present invention relates to an electronic message management system and method, and more particularly, to an electronic message storage, tracking, management, and response method and system.

10                  The number of internet users continues to grow at an astounding rate. Accordingly, Internet Web sites have become an important way to communicate with customers. Internet Web sites are being used to send electronic message inquiries to customer service departments of many companies. Accordingly, as with traditional telephone customer service departments, customers expect timely responses to their e-mail inquiries.

15                  An analysis was performed on the proficiency of companies in responding to e-mail inquiries received through their Web site. The study found that:

                    17% of the companies responded via e-mail;  
                    27% of the companies did not respond to the e-mail inquiries;  
                    8% responded via the U.S. postal service; and  
20                  48% of the companies did not have any mechanism for accepting e-mail inquiries.

25                  Additionally, of the small percentage of companies actually responding to e-mail inquiries, many of those companies took 3-4 weeks to respond to e-mail inquiries, with many of the inquiries never being answered. Many popular Web sites generate tens of thousands of hits, and thousands of e-mail inquiries, per month. As the popularity of the Internet increases, the number of e-mail inquiries sent will continue to increase.

30                  At the present time, electronic message inquiries are handled manually by customer service departments. In other words, the e-mail is sent directly to a customer service Mail server. The e-mail message inquiries are then read by a customer service representative who

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is assigned to respond to the e-mail inquiries. The customer service representative may either respond to the message or may refer the message to another customer service representative who is more qualified to answer the inquiry. Currently, the process of forwarding the messages to responsible customer service representatives (CSRs) is accomplished manually.

- 5 In other words, either the forwarding CSR clicks the "forward" button to send the message to the responsible CSR or the e-mail inquiry is actually printed out and physically handed to the responsible CSR. The responsible CSR then responds to the e-mail inquiry.

This manual process of responding to electronic messages results in a lack of electronic message management and a failure to provide any type of quality assurance on the message responses. For example, in a traditional system, once an e-mail inquiry is received at the designated mail server a customer service representative may access that e-mail message by using any known e-mail program (e.g. Eudora). If the customer service representative cannot answer the message, he must refer that inquiry to another CSR that can answer the question. With these known systems, the CSR must "manually" forward the inquiry to another responsible CSR able to take the inquiry. The e-mail is "manually" forwarded, for example, by designating the e-mail address of the responsible CSR and clicking the "forward" button in the mail program. Once the responsible CSR receives the forward inquiry, he or she may respond to the inquiry.

Accordingly, these traditional system are not well suited to handle a large load of electronic message inquiries. The manual forwarding of inquiries to responsible CSRs may take a considerable amount of time when there are thousands of inquiries and where there are many different CSRs (e.g. one to take billing inquiries, one to take technical support inquiries, one to take dealer locator inquiries). The time needed to initially read each message, to determine who the responsible CSR is, to determine the location of the

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responsible CSR, and to forward the message to the responsible CSR for response, results in long response times.

Additionally, these traditional systems do not provide any efficient means to provide quality assurance and electronic message tracking. For example, once the responsible CSR responds to the message, it is sent to the customer without being reviewed for appropriate content. This lack of quality control may result in inappropriate, or inaccurate, responses being sent to customers and accordingly, damage to valuable customer relations.

Additionally, in these known systems, the manual forwarding of electronic message inquiries to responsible CSRs results in a lack of message status tracking. In these known electronic messaging systems it is virtually impossible to administer the status of the electronic message inquiries, to determine what the inquiries were about, who the responsible CSR is, which inquiries have been responded to, and which inquiries are still in need of attention. For example, as an illustration, assume that in one week Company "Fortune 500" receives 100,000 e-mail inquiries. Assume that the e-mail messages were distributed as follows:

25,000 messages were sent to 100 different technical support CSRs;

25,000 messages were sent to 100 different billing CSRs;

25,000 messages were sent to 100 different product CSRs;

5,000 messages were sent to 20 different dealer locator CSRs; and

20,000 messages were sent to 100 general CSRs.

With traditional e-mail messaging systems, the only way that these different CSRs can obtain access to the appropriate e-mail inquiry is to either:

- 1.) manually forward the e-mails to the responsible CSR;
- 2.) print out the e-mail message and physically deliver it to the responsible CSR; or

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- 3.) have the original e-mail message sent directly to the different e-mail addresses of each CSR.

All of these methods would be inefficient for distributing e-mail inquiries to responsible CSRs and, accordingly, for the subsequent responding to the 100,000 e-mail messages.

5        Additionally, with these known systems, it would be virtually impossible to provide any administrative tracking or quality assurance on these 100,000 e-mail inquiries. Once the e-mail inquiry has been forwarded to the responsible CSR, administration could not efficiently track the status of the inquiry (i.e. responded to or still pending) or the content of the responses being sent. In these known systems, the individual CSR would have to  
10 individually inform administration of the status of each assigned e-mail inquiry and forward each response to administration for approval.

As the popularity of the Internet increases, electronic message communication will become a standard and indispensable form of communication. Accordingly, companies need to implement e-mail communication with their customers. Additionally, many companies  
15 are, and will be, receiving thousands of electronic message inquiries per week. Accordingly, there is a need for an electronic message management system that provides for the efficient storage, administration, tracking and reporting of customer inquiries. Additionally, an electronic message management system is needed which will allow the generation of timely responses to electronic message inquiries. The present invention provides such an electronic  
20 message management system that provides the following advantages over existing e-mail programs:

- 1.) provides an automatic interface to a structured database for forwarding all electronic messages;
- 2.) provides access to the database by authorized CSRs, from remotely located  
25 computers;

- 3.) stores the electronic messages by predetermined attributes (e.g. time the inquiry was received, the e-mail address of the customer, the status of the message) so that the e-mail inquiries can be retrieved by any, or all, of the attributes;
- 4.) allows administrators to provide quality assurance reviews on selected responses before sending the message to the customer;
- 5.) provides updates to the interface based on CSR or administrator activities so that the status of all electronic messages are current;
- 6.) provides a list of authorized CSRs that may have access to the electronic messages in the interface, and allows customized settings of individual CSR privileges;
- 7.) provides security against hackers and viruses;
- 8.) provides a historical record of all electronic messages from each customer;
- 9.) interfaces the CSRs to a database containing predefined, standard, responses for frequently asked questions;
- 10.) allows the forwarding of the message to the relevant expert, the database being updated to indicate that the message has been referred to an expert;
- 11.) tracks the responses to all electronic message inquiries and updates the database accordingly;
- 12.) provides the ability to efficiently add additional CSRs, delete CSRs, add standard responses, and to provide custom reports;
- 13.) allows categorization of all electronic inquiries/messages by client-defined categories;
- 14.) allows the reporting of the average response time of responses; and
- 15.) allows the monitoring of CSRs.

In accordance with one aspect of the invention, there is provided a system for managing electronic messages received from the Internet or an Intranet, comprising a first programmed digital computer programmed to accept electronic messages and programmed with mail server software. The system further includes a database for storing the electronic messages according to predetermined attributes for tracking the electronic messages and includes a second programmed digital computer in electrical communication with the first programmed digital computer. The second programmed digital computer is configured with Web server software. The system further includes a third programmed digital computer in electrical communication with the first



programmed digital computer. The third programmed digital computer is configured with web browser software. The received electronic messages are forwarded by the first programmed digital computer to the database and a customer service representative (CSR) located at the third programmed digital computer may retrieve  
5 any of the stored electronic messages based on any of the predetermined message attributes.

The third programmed digital computer may be configured to allow the customer service representative to respond to an electronic message that has been retrieved from the database and a data interface may convert data requests from the  
10 second programmed computer to the database so that the database may receive instructions from the first programmed digital computer and so that the first programmed computer may receive data from the database.

One of the predetermined message attributes may include the time the electronic message was received.

15 One of the predetermined message attributes may include an e-mail address of the customer who sent the electronic message.

One of the predetermined message attributes may include the current status of the electronic message.

20 One of the predetermined message attributes may include an e-mail address of the group to which the electronic message was sent.

The database may store the electronic messages and data of CSR privileges.

The data of CSR privileges may include access privileges to the database, quality assurance privileges and/or CSR passwords.

25 In accordance with another aspect of the invention, there is provided an electronic message management method, comprising receiving electronic messages at an electronic network, forwarding the electronic messages to a database, storing the electronic messages based on predetermined message attributes for tracking the electronic messages, interfacing a customer service representative computer to allow electronic access to the electronic messages and transmitting one of the stored  
30 electronic messages from the database to the customer service representative.

The predetermined message attributes may include an e-mail address of a group to which the e-mail message was sent.

The predetermined message attributes may include the status of the electronic message.

The method may further comprise responding to the transmitted message and automatically updating the database upon responding to the transmitted message to indicate a response has been sent.

The method may further comprise forwarding the transmitted message to an expert, updating the database, after forwarding the transmitted message to the expert, to indicate that the transmitted message has been forwarded to the expert and formulating a response from the expert.

The method may further comprise providing a response to the transmitted electronic message, storing the response in the database and retrieving the stored response for quality assurance review.

The method may further comprise denying the response and updating the database to indicate that the response was denied.

The method may further comprise accepting the response and sending the response to an originating customer.

The method may further comprise storing CSR data in the database and providing access to the database base on the CSR data.

The method may further comprise storing a list of standard responses in the database.

The method may further comprise retrieving certain ones of the standard responses from the database and sending at least one of the standard responses to an originating customer of the transmitted electronic message.

In addition to the features mentioned above, objects and advantages of the present invention will be readily apparent upon a reading of the following description.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Novel features and advantages of the present invention, in addition to those mentioned above, will become apparent to those skilled in the art from a reading of the following detailed description in conjunction with the accompanying drawings wherein similar reference characters refer to similar parts and in which:

**Figure 1** illustrates one embodiment of the e-mail management system of the present invention;

**Figure 2** illustrates a block diagram illustrating one embodiment of the interface between the Web server and the database;

5       **Figure 3** illustrates a flow chart depicting the main operational steps of the e-mail management system;

**Figure 4A** illustrates a flow chart depicting the main steps for accessing and responding to e-mail messages;

10       **Figure 4B** illustrates a flow chart depicting the choices available to a CSR when handling e-mail messages in the system of the present invention;

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Figure 5 illustrates a flow chart depicting the steps for forwarding a message to an expert;

Figure 6 illustrates a flow chart depicting the steps needed for replying to an e-mail message;

5 Figure 7 illustrates a flow chart depicting the steps for providing a quality assurance review of e-mail responses;

Figure 8 illustrates a flow chart depicting the steps for administering the e-mail system of the present invention;

Figure 9 illustrates a flow chart depicting the steps for requesting a report; and

10 Figures 10-34 illustrate example screen shots from various pages of a preferred system of the present invention.

#### DETAILED DESCRIPTION OF PREFERRED EMBODIMENT(S)

The preferred system herein described is not intended to be exhaustive or to limit the invention to the precise forms disclosed. They are chosen and described to explain the  
15 principles of the invention, and the application of the method to practical uses, so that others skilled in the art may practice the invention.

Figure 1 illustrates one embodiment of the electronic management system 10 of the present invention. The system is preferably comprised of a server 14, a computer running mail server software 15, a database 16, and a customer service representative (CSR) computer  
20 18. (A mail server 15 would not be needed if all electronic messages were submitted via Web page forms).

It is preferred that the server 14, the mail server 15, the database 16, and the CSR computer 18 be connected by a network. This network, preferably, makes up the call center network 10 of the present invention. For example, the network 10 may be an ethernet  
25 network based on Transfer Connect Protocol/ Internet Protocol (TCP/IP), although it is

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appreciated that other protocols may be used. The network 10 may also be part of a Wide Area Network (WAN). It is also appreciated that the components of the present system may be variously arranged. For example, the server 14, acting as a Web server, may also be configured as the mail server. However, in the preferred embodiment, as illustrated in Figure 1, the mail server 15 is a separate computer from the server 14, and linked by the network.

The server 14 is generally a large capacity computer programmed for interfacing the CSR computer 18 and the database 16. The server 14 is preferably a computer configured, or programmed, with Web server software. The server 14, configured with Web server software (i.e. a "Web server"), serves as an interface between the CSR's computer 18, configured with Web browser software, and the database 16.

Typically, the network is connected by a T1 line to the Internet. Again, it is preferred that the server 14 be configured with Web server software with the capability to store, and transfer, Hypertext Markup Language (HTML) files and/or other scripts. As will be discussed, the CSR user interfaces are, preferably, viewed through a Web browser which accesses HTML code, or files, stored at the server 14.

The customer's computer 12 is typically a personal computer having a modem for communicating with the call center network 10 facility, through the Internet. There are many advantages of using the Internet to communicate with the call center network, e.g., the customer has access to low cost clients (i.e. Web browsers), and the Web allows standard user interfaces and the ability to work across different platforms and applications.

In the preferred embodiment, the customer sends an electronic message, or inquiry, through the Internet, which finds its way to the mail server 15. (Electronic messages include, but are not limited to, e-mail messages). If e-mail, the mail server 15 receives and accepts the electronic message (if the message is submitted from a Web page form it is interface directly to the database 16). The mail server 15 is preferably a mail server program (e.g.

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Microsoft Exchange Server) that may either be located on the server 14, or a separate computer electronically linked to the server 14 (i.e. the server 14 may be configured with both Web server software and mail server software or the server 14 configured with Web server software may be electronically connected to another computer 15 configured with mail server software).

In any case, the call center network 10 is configured to automatically transfer the received electronic messages to the database 16 for storage (i.e. without an intermediate manual step). Automatic transfer of the electronic messages may either be the automatic forwarding of the messages or having the messages pulled by the database. For example, a customer, using an e-mail client (e.g. Eudora) located on his computer 12 sends an e-mail message to companysupport@matrixx.net. The e-mail message travels through the Internet and enters the call center network 10. The e-mail message is routed to the mail server 15 (This is accomplished through known mail protocols, for example, the mail server 15 is configured to accept and send Internet e-mail. When a mail message arrives it is sent to the server defined as the mail server in the Domain Name Service and MX records). The database 16 is programmed to automatically retrieve the e-mail messages from the mail server. In other words, a program may be written that retrieves predetermined received e-mail messages from the mail server and delivers them to the database 16 for storage. This program may be written in a number of different languages including C++ or SQL. The key being to provide automated integration between the mail server, the Web page, and any SQL stored procedures.

It should be appreciated that electronic messages from customers may be received in forms other than through traditional e-mail clients. For example, an electronic message may be sent from on-line forms embedded in company Web pages. These electronic messages may also be sent to the Web server 14, and stored in the database 16. For example, company

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Web sites may have on-line forms for submitting data or customer inquiries. These forms submit the message to a program, preferably written in C++, on the Web Server 14. Once the program receives the message, it stores the message in the database 16.

5 The database 16 is generally a storage area for the received electronic messages, including e-mails, and any other data required by the system (e.g. CSR data). It is preferred that the database 16 be a complete database management system (DBMS) which acts to organize and standardize data retrieval and storage, and is controlled by a language that helps to manipulate the data and allows querying of the database (e.g. SQL).

10 Although the database 16 may be a "flat file" it is preferred that the database 16 be a relational database. A relational database is a database that stores the information in tables, and where there are rules that define the relationship between the tables. Generally, the tables in a relational database are separated by different entities (e.g. all received e-mail messages, all data on CSRs, and predefined CSR standard responses). Generally, each row of a database table defines a subset of that particular entity where each column of that table defines a  
15 specific attribute, or category, for that entity. For example, a table storing all received e-mail messages may be stored as one table or entity. One row may be designated for each separate e-mail message where the message is given specific attributes defined by each column of that row (e.g., the time the message was received or the status of the message).

Figure 2 illustrates a block diagram illustrating one embodiment of the interface 24  
20 between the Web server 14 and the database 16. The Web server 14 may be connected to more than one database 16. The server 14 is adapted to interface with the database 16 so that the CSR may access, and retrieve, the data residing on the database 16. For example, a server 14, acting as a Web server 14, generally consists of HTML files and electronically communicates with the CSR computers 18 using HyperText Transfer Protocol (HTTP).  
25 When a Web page is requested by the Web browser, HTML files are sent from the Web

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Server 14 to the CSR Web browser via HTTP. When data from the database 16 is needed, the Web page is programmed to retrieve the data from the database 16.

Accordingly, the server 14 and the database 16 must be integrated for proper communication. However, in many cases the server 14, acting as an interface to the database  
5 16, cannot communicate with standard databases without an interface 24 that maps the incoming query to the server 14 to the appropriate semantics in the database 16.

In many databases today, Structured Query Language ("SQL") is used as the industry standard. SQL is a data language designed for creating, manipulating, and controlling relational databases. In order for a Web Server 14 to communicate with a database, a  
10 program extension 26 may be needed that converts the requests for data from the Web server 14 to a form that the database 16 will understand. For example, if the database 16 is a SQL database, the programmed program extension 26 will convert the data request from the Web Server 14 to SQL so that the database 16 will understand. However, in the preferred embodiment a program extension 26 is not required. In the preferred embodiment, the Web  
15 Server speaks directly to the database with Internet Database Connector files ("IDC" files) which allow Web pages to interface with the data in the database 16.

Additionally, in the preferred embodiment, an Open Database Connectivity (ODBC) layer is also programmed into the call center network 10. ODBC is a standard interface between the database 16 and an application trying to access the data in the database 16.  
20 Basically, the ODBC layer 28 allows any front end application to access the database 16 (in other words, the ODBC interface 28 is a program that provides a uniform way of calling data request to a database 16).

Accordingly, in the preferred embodiment, a data request from the Web server 14 is sent via IDC files, which use ODBC-compatible SQL, to the ODBC interface 28. The ODBC



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layer 28 converts the ODBC SQL calls into the predetermined database 16 native calls and then performs the database 16 interaction. The ODBC layer may also return the results of the data queries in a uniform way to the Web server 14.

The operation of the invention can be understood with reference to the flowcharts of  
5 Figures 3-9 and corresponding screen shots illustrated in Figures 10-34. The flowcharts of Figure 3-9 describe the operational flow of one example system of the present invention. Screen shots from various stages of the system flow are depicted in Figures 10-27, however not all screen shots have been provided.

As discussed above, customers submit electronic message inquiries (e.g. e-mail) to the  
10 call center network 10. As discussed, the electronic messages are automatically transferred to a database 16 according to a predetermined format. Accordingly, the CSRs must access the electronic messages stored on the database 16 and respond to the inquiries.

A CSR accesses the database 16 from a computer station 18 electronically connected to the server 14. It is preferred that the CSR stations 18 are connected to the server 14 via a  
15 TCP/IP network, however, it should be understood that other network and data transfer protocols may suffice. As discussed, the server 16 is a computer that interfaces the CSR computer 18 with the database 16. It is preferred that the server 16 be configured with Web server software that allows the maintenance of HTML files, i.e. Web pages, that are used as interfaces to the database 16 (The following explanation of the invention and the flowcharts  
20 assume HTML as the preferred file format of the user interfaces although other formats may be used. Accordingly, the server 14 in the following explanation will be configured with Web server software, i.e. a Web server 14).

To access the database 16, a CSR points his Web browser to the appropriate address (e.g. a URL 13) of the starting address of the call center interface files located on the Web

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server 14. The Web server 14 transmits the HTML files of the CSR login page to the requesting CSR. (See the screen shot of Figure 10.) The CSR then logs in with his ID and his password block 30. A program then checks to make sure the ID and the password are of a required form block 32 and sends the data to the database to make sure the CSR is allowed  
5 access block 34. It is preferred that an ID and password checking program be embedded in the HTML. For example a script is sent to the browser where it is subsequently run by the browser running on the CSR computer 18.

If the ID and password are of a required form, they are sent to the database to confirm the CSR may access the messages. If the CSR is authorized, the HTML files informing the  
10 user of authorized access are sent to the CSR browser (see Figure 11). Upon clicking the "continue button" 17, the main navigational page (see screen shot of Figure 12) are sent to the CSR computer 18. The main navigational page is displayed block 36 via the Web browser at the CSR computer 18. The call center interface may be programmed so as to require the changing of CSR passwords after a predetermined time. The main navigational  
15 page provides links, to HTML, or Web, page interfaces that allow the CSR to perform one of the main functions of the call center system 10. The CSR may opt to:

- 1.) access and process the received electronic messages;
- 2.) provide administrative functions;
- 3.) create detailed reports;
- 4.) view the history of the received electronic messages; or
- 5.) change the passwords of the CSRs.

The CSR selects one of these options block 38 by clicking on the appropriate link in the main navigational page as illustrated in Figure 12. For example, if the CSR wants to respond to e-mail messages he clicks on the "e-mail" link 40; if he wants to administer the  
25 system he clicks on the "Administration" link 42; if he wants to view a report on system

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statistics he clicks on the "Reports" link 44; if he wants to retrieve a history report he clicks on the "History" link 46; if he wants to change passwords he clicks on the "Password" link ; and if he wants to process mail, he clicks on the "Process Mail" link.

By clicking on the "e-mail" link 40 on the main navigational page, the database is  
5 queried to find which e-mail addresses the CSR may respond to and how many e-mails are waiting response. The results of the query are used to create the HTML file of the "E-mail Response" page. The "E-mail Response" page is sent to the CSR computer 18 from the Web server 14. (Figures 4A and 4B illustrate a flow chart depicting the main steps for accessing and responding to e-mail messages.) Once the HTML files are received at the CSR computer  
10 18, the "E-mail Response" page, illustrated in Figure 13, is displayed block 52 via the Web browser.

The E-mail Response page preferably gives the CSR the option of either:

- 1.) selecting a group of e-mail messages to respond to if the CSR has permission to respond to the received electronic messages; or
- 15 2.) selecting a group of e-mail messages to provide quality assurance (QA) reviews block 54.

E-mail messages are preferably grouped according to the e-mail addresses where the inquiry was sent. For example, all e-mail messages sent to a particular e-mail group are all preferably grouped together, stored together in the database 16, and accessed together. For  
20 example, in Figure 13, there is only one group, "cyberresponse@matrixx.net". It is preferred that only the CSR groups to which each CSR has access be listed on the retrieved page. It is important to note that many CSRs (each linked by a computer 18) can respond to a single address/group. Setting CSR privileges to groups is discussed in further detail below.

If the CSR wishes to access and respond to e-mail messages, the CSR selects a group  
25 to respond to block 56. By selecting a group, the corresponding electronic messages

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received, and queued, for that group are retrieved block 58 from the database 16 and sent to the CSR computer 18 where they are displayed via HTML block 60. An example of a "Queued Messages" page is illustrated in Figure 14. In the example page of Figure 14, the retrieved messages are categorized by:

- 5        1.) message number;
- 2.) response number;
- 3.) the status of the message;
- 4.) whether the message has been assigned;
- 5.) when the message was received;
- 10      6.) who sent the message, including the customer's e-mail address; and
- 7.) the subject of the message.

It is preferred that the messages be separated into three different subgroups: the

General message subgroup 62, the QA message subgroup 64, and the Expert message subgroup 66. The QA message subgroup contains all the messages that are awaiting QA review or messages denied by QA. All the messages in the Expert message subgroup are  
15      messages that are awaiting expert response or have been answered by an expert. The General message group contains all other messages that are still in queue. As illustrated in Figure 14, the status of the QA messages are either "From QA" or "Pending QA". Messages with the "From QA" status indicate that the message has been reviewed and denied by a CSR with  
20      QA privileges. Messages with the "Pending QA" status indicate that the message has not yet been reviewed. Similarly, the status of the Expert messages are either "From Expert", indicating the expert has responded to the CSR's inquiry, or "Wait for Expert", indicating the CSR is still waiting for the expert to respond. Messages in the General message subgroup 62 may indicate to which CSR the message has been assigned.

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A CSR may have the option to retrieve messages from either the General message subgroup 62, the QA message subgroup 64, or the Expert message subgroup 66 (block 68). If the CSR wishes to respond to a message that has not yet been opened or assigned, the CSR may click on a link 70 of a message that has a status of "Unopened" and "Unassigned".

5 Upon clicking such a link, the message is retrieved from the database 16 (the database 16 being updated to indicate the message has been opened) and sent to the CSR computer 18 where it is displayed via the Web browser block 72.

Upon clicking on an unassigned e-mail message to review, the CSR is given the option to either:

- 10       1.) assign the message to himself; or
- 2.) return to the queued message page Figure 14 without assigning the message block 78.

If the CSR does not wish to assign the message to himself, the CSR is returned to the queued message page. If the CSR wishes to assign the message to himself, the CSR clicks on

15 the "Assign Message to Me" link. The database 16 is updated to indicate that the message has been assigned block 82. Upon assigning the message, the CSR is sent another HTML page which contains text asking the CSR to assign a category to the message block 84. See Figure 15. Upon assigning a category(s), the database 16 is updated to reflect which categories the message has been assigned. Once a category is assigned to the message, CSR

20 is given the option to either respond to the message, refer the question to an expert, or not respond to the message block 86.

If the CSR indicates that a response is not needed for a particular message, the CSR so indicates and the message is removed from the queued message table and the database is updated to indicate the message did not need a response block 88.

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If the CSR wishes to refer the message to an expert more suited to respond to the inquiry, the CSR clicks on the appropriate link. Figure 5 illustrates a flowchart of the steps for referring a message to an expert. An HTML page is sent to the CSR block 90 requesting expert referral that asks the CSR to select an expert to take the message (see Figure 16 illustrating an example screen shot). The CSR then selects an expert and refers the message to the designated expert block 92 and 94. The database 16 is then updated to indicate that the message has been referred to an expert and that it is pending response from that expert block 96. Once the expert reviews and responds to the message, the database 16 is updated to indicate that the expert has responded to the message, i.e. "From Expert". An expert is preferably a CSR that has been given expert privileges or a designated expert outside the E-mail management system, as will be discussed below. Accordingly, the expert accesses the management system via a computer configured similarly to the CSR computer 18 (or if outside the E-mail management system, receives and replies to expert inquiry via standard Internet E-mail).

From the page illustrated in Figure 15, the CSR may wish to respond to an assigned message rather than referring it to an expert. Figure 6 illustrates a flow chart depicting the steps needed for replying to an e-mail message. The CSR will have the option of providing a custom response, a standard response, or both, to the inquiry blocks 98-104. The standard responses are stored and retrieved from the database 16. They are preferably indexed, and retrieved, by the particular group, category, or keyword of the message (Figure 17 illustrates a screen shot listing example standard responses). Providing standard responses to frequently asked customer questions reduces the time required to respond to many of the customer inquiries.

The system 10 is programmed to determine whether the response requires QA review block 106, prior to the message being sent to the originating customer. As will be discussed

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in greater detail below, the administrator of the system may designate responses from certain CSRs as requiring QA review (discussed in greater detail below). In other words, all responses of designated CSRs must be given a QA review before their responses are sent to the customers. This feature allows the monitoring of CSR responses. This is especially  
5 important when training CSRs or when certain CSRs have a discourteous service record. If the response requires QA review, the response is flagged for QA review and the database 16 is updated to indicate that the stored response is to be reviewed and approved before being sent blocks 108 and 110. If the response does not require QA review, the message is sent to the customer and the database 16 is updated to indicate that the message was responded to  
10 blocks 112-116.

As discussed above, a CSR with QA privileges may opt to provide a QA review on the CSR responses as opposed to responding to a message block 54. Figure 7 illustrates a flow chart depicting the steps for providing a quality assurance review of e-mail responses. Once a CSR indicates that he wishes to review submitted CSR responses that are in queue, an  
15 HTML page is sent to the CSR computer 18 containing a table of responses that must be reviewed (the responses are retrieved from the database 16) block 118. Figure 18 illustrates an example screen shot of a page listing messages to be given QA review.

The CSR may then click on a message to review block 120. An HTML file is sent to the CSR computer 18 that, preferably, displays the text of the message, the response  
20 formulated by a CSR, and other message data block 122. This data being retrieved from the database 16. Upon QA review, the reviewing CSR may accept or deny the response block 124. If the response is accepted, it is sent to the customer and the database 16 is updated to indicate that the customer message was reviewed and replied to blocks 126, 128. If the response is denied, the QA CSR sends the denied message back to the CSR with an

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explanation and a recommendation of how to respond to the inquiry. The database 16 is updated to indicate that the response has been reviewed and denied block 130.

As previously discussed, a CSR, with administrative privileges, has the option to perform administrative duties on the electronic message management system. The administrative CSR may perform administrative functions by clicking on the appropriate link in the main navigational page block 38 as illustrated in Figure 12. Once the administrative CSR clicks on the administrative link, an HTML file of the main administrative options page is sent to the CSR block 132, located at a CSR computer 18 (Figure 19 illustrates an example screen shot of the main administrative options page of the present invention). Figure 8 illustrates a flow chart depicting the steps for administering the electronic message system of the present invention.

From the main administrative options page Figure 19, the CSR may elect to update message groups (these groups preferably consisting of a number predetermined e-mail addresses), update CSR data, or update a group of messages block 134. In updating CSR data, the administrative CSR may add new CSRs block 136 or change existing CSR privileges block 138. Figure 20 illustrates an example screen shot for adding CSRs and updating CSR privileges. Again, these screen shots are preferably HTML files, or pages, displayed with a Web browser located at the CSR computer 18. As illustrated in Figure 20, the administrative CSR may change CSR passwords, update CSR privileges, and give permissions to selected groups the CSR may respond to. It is also preferred that the pages be linked to the database 16, so that changes to the CSR data made on the page are automatically made in the database 16, according to the methods previously discussed (i.e. The data is sent via the CSR computer 18 to the Web server 14 to the database 16).

The administrative CSR may also choose to update a group, or a group address. Figure 21 illustrates example screen shots displayed at the administrative CSR's computer 18



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for updating group data. As illustrated in Figure 21, an administrative CSR may have the option block 140 to:

change the categories of a group block 142, Figure 21;

assign CSRs to a group block 144, Figure 22;

5 add or change standard responses of the group block 146, Figure 23;

add or change the signatures of the group Figure 24; or

view a summary page of the group Figure 25.

It is preferred that these pages be linked to the database 16, so that changes to the group data made on the page are automatically uploaded to the database 16.

10 The administrative CSR may also grant other CSRs the privilege to view reports (Reports CSRs). The Reports CSRs may choose to view a report on a certain group. Figure 9 illustrates a flow chart depicting the steps for requesting a report. In the preferred embodiment, the Reports CSRs have the option to view a report of a group block 148 based on either the:

15 category of messages block 150;

time and/or day the messages were received block 152;

messages of a group that did not need a response block 154;

messages that were initiated by a CSR block 156;

messages that are still pending block 158; or

20 messages that have been reviewed by a QA CSR.

Figures 26-34 illustrate example screen shots displayed at the administrative CSR's computer 18 for viewing and printing group reports. The reports are created by retrieving the appropriate data from the database 16 and sending them to the CSR computer 18 to be displayed in a predetermined interface format, preferably created by HTML. As discussed,

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the requests for data sent from these pages are sent to the server 14 which interfaces these data requests to the database 16.

It is also preferred that the present system allow the CSRs to initiate e-mail messages to the customers from their computers 18. It is also preferred that the CSRs e-mail programs  
5 be linked to the database 16 so that the system may track and store:

- i) which CSR sent the e-mail;
- ii) when the e-mail was sent;
- iii) where the e-mail was sent; and
- iv) what the e-mail message consisted of.

10 This feature allows the system of the present invention to track CSR performance for CSR initiated e-mails similarly to the tracking of CSR responses to customer initiated messages.

Having shown and described a preferred embodiment of the invention, those skilled in the art will realize that many variations and modifications may be made to affect the  
15 described invention and still be within the scope of the claimed invention. It should be appreciated that the present system may be implemented by other data protocols, programming languages, and differing arrangements of certain programs and interfaces not discussed in the present application. Thus, many of the elements indicated above may be  
20 altered or replaced by different elements which will provide the same result and fall within the spirit of the claimed invention. It is the intention, therefore, to limit the invention only as indicated by the scope of the claims.

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE  
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A system for managing electronic messages received from the Internet or an  
Intranet, comprising:

a first programmed digital computer, said first programmed digital  
computer programmed to accept electronic messages, said first  
programmed digital computer programmed with mail server software;

a database for storing said electronic messages according to  
predetermined attributes for tracking said electronic messages;

a second programmed digital computer in electrical communication  
with said first programmed digital computer, wherein said second  
programmed digital computer is configured with Web server software;

a third programmed digital computer in electrical communication with  
said first programmed digital computer configured with web browser  
software;

wherein said received electronic messages are forwarded by said first  
programmed digital computer to said database; and

wherein a customer service representative (CSR) may retrieve any of  
said stored electronic messages based on any of said predetermined  
message attributes, said customer service representative located at said  
third programmed digital computer.

2. The system of claim 1 wherein said third programmed digital computer is  
configured to allow said customer service representative to respond to an  
electronic message that has been retrieved from said database; and

wherein a data interface converts data requests from said second programmed computer to said database so that said database may receive instructions from said first programmed digital computer and so that said first programmed computer may receive data from said database.

3. The system of claim 1 wherein one of said predetermined message attributes is the time the electronic message was received.

4. The system of claim 1 wherein one of said predetermined message attributes is an e-mail address of the customer who sent said electronic message.

5. The system of claim 1 wherein one of said predetermined message attributes is the current status of said electronic message.

6. The system of claim 1 wherein one of said predetermined message attributes is an e-mail address of the group to which the electronic message was sent.

7. The system of claim 1 wherein said database stores said electronic messages and data of CSR privileges.

8. The system of claim 7 wherein said data of CSR privileges includes access privileges to said database.

9. The system of claim 7 wherein said data of CSR privileges includes quality assurance privileges.

10. The system of claim 7 wherein said data of CSR privileges includes CSR passwords.

11. An electronic message management method, comprising:

receiving electronic messages at an electronic network;

forwarding said electronic messages to a database;

5 storing said electronic messages based on predetermined message attributes for tracking said electronic messages;

interfacing a customer service representative computer to allow electronic access to said electronic messages; and

10

transmitting one of said stored electronic messages from said database to said customer service representative.

12. The method of claim 11 wherein one of said predetermined message attributes  
15 is an e-mail address of a group to which the e-mail message was sent.

13. The method of claim 11 wherein one of said predetermined message attributes is the status of said electronic message.

20 14. The method of claim 11 further comprising:

responding to said transmitted message; and

25 automatically updating said database upon responding to said transmitted message to indicate a response has been sent.

15. The method of claim 11 further comprising:

forwarding said transmitted message to an expert;

30

updating said database, after forwarding said transmitted message to said expert, to indicate that said transmitted message has been forwarded to said expert; and

5                   formulating a response from said expert.

16.    The method of claim 11 further comprising:

providing a response to said transmitted electronic message;

10

storing said response in said database; and

retrieving said stored response for quality assurance review.

15

17.    The method of claim 16 further comprising:

denying said response; and

updating said database to indicate that said response was denied.

20

18.    The method of claim 16 further comprising:

accepting the response; and

25

sending said response to an originating customer.

19.    The method of claim 11 further comprising:

storing CSR data in said database; and

30

providing access to said database base on said CSR data.

20. The method of claim 11 further comprising storing a list of standard responses in said database.

21. The method of claim 11 further comprising:

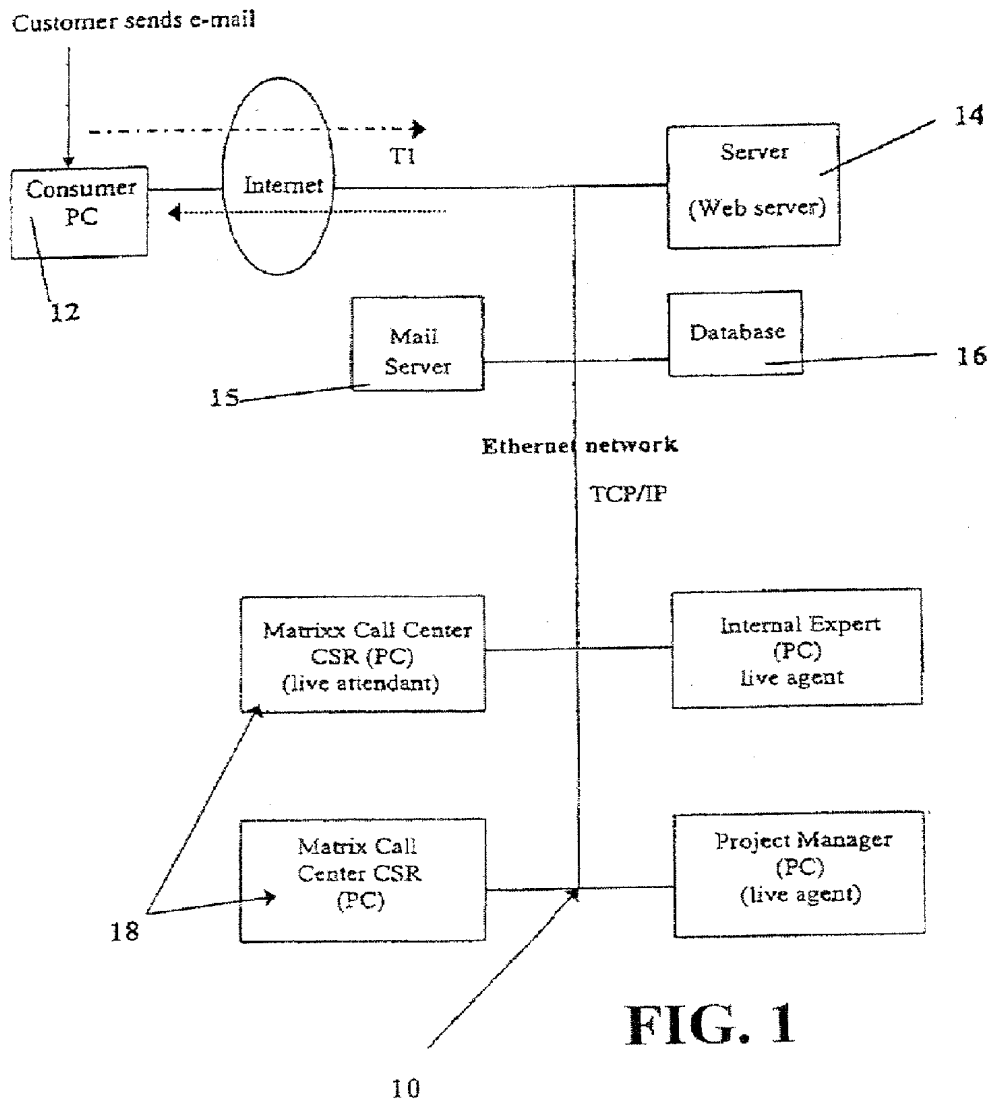
5

retrieving certain ones of said standard responses from said database;  
and

10

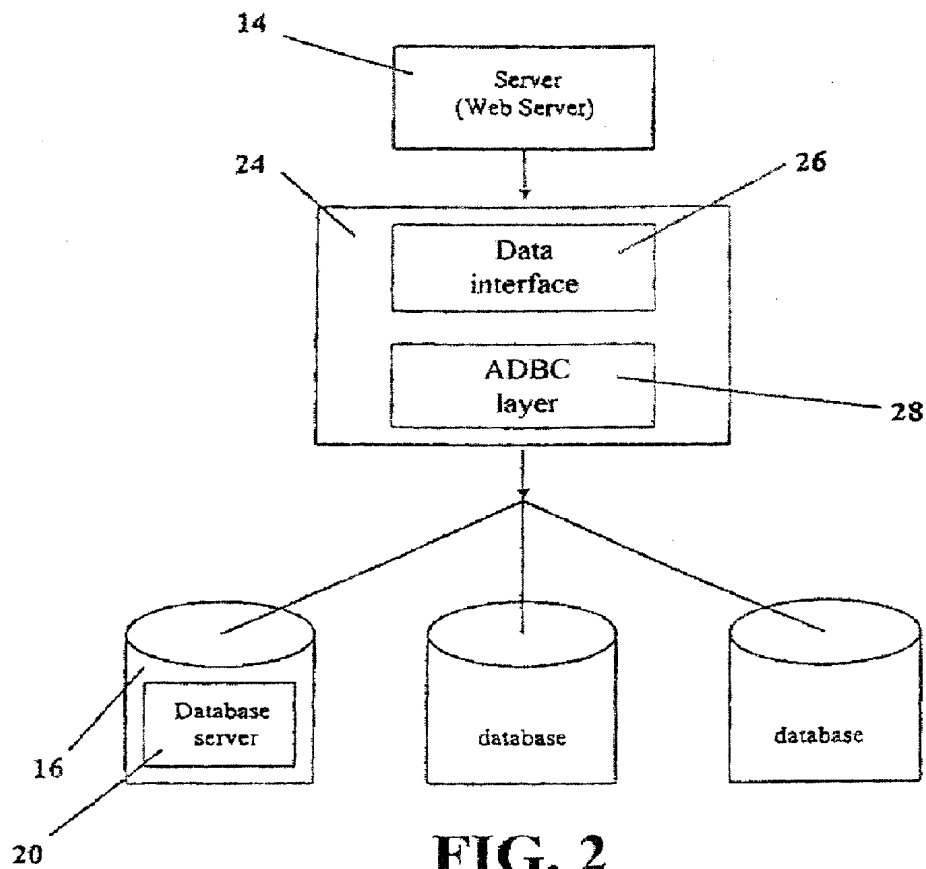
sending at least one of said standard responses to an originating  
customer of said transmitted electronic message.

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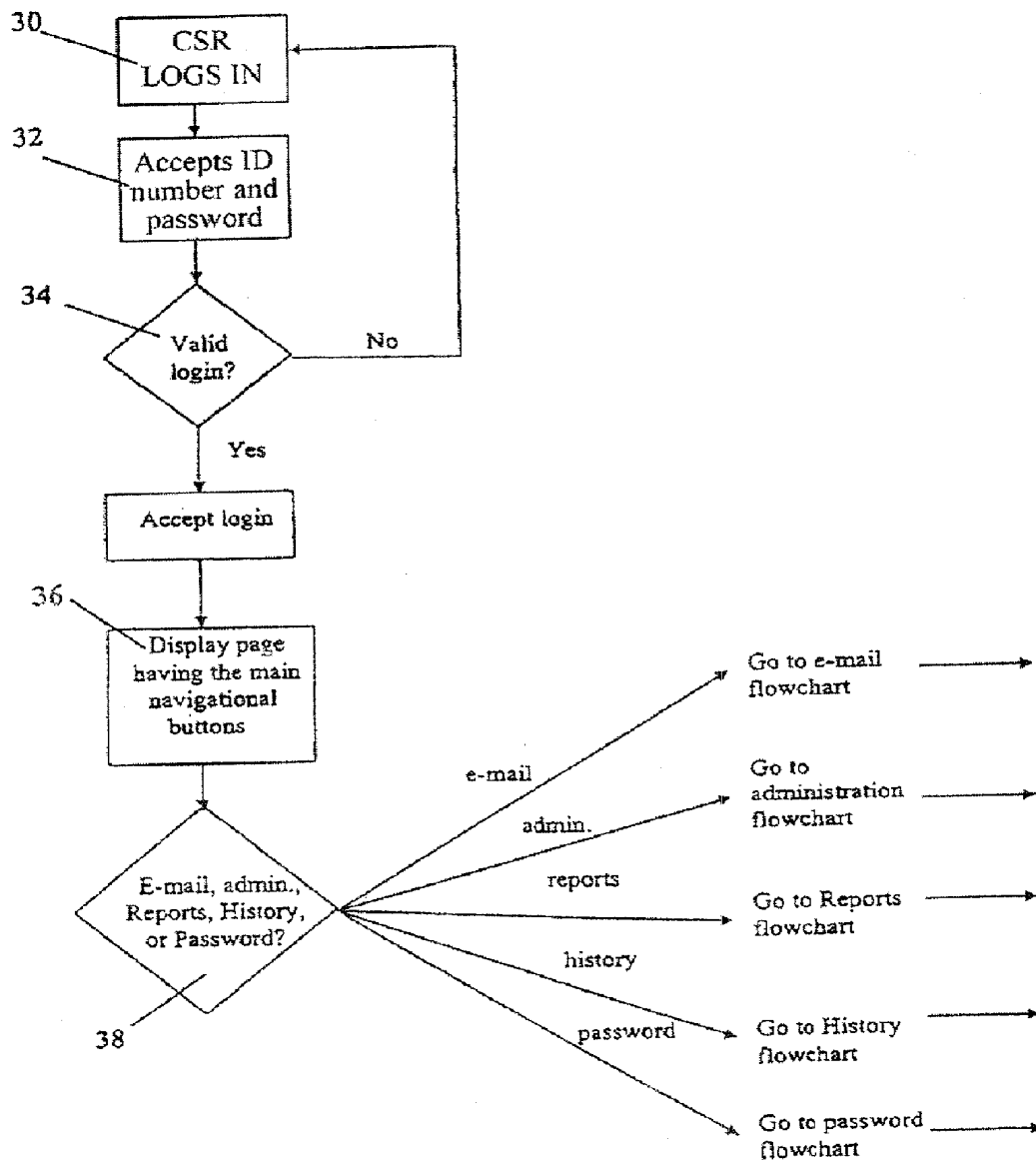


FIG. 3

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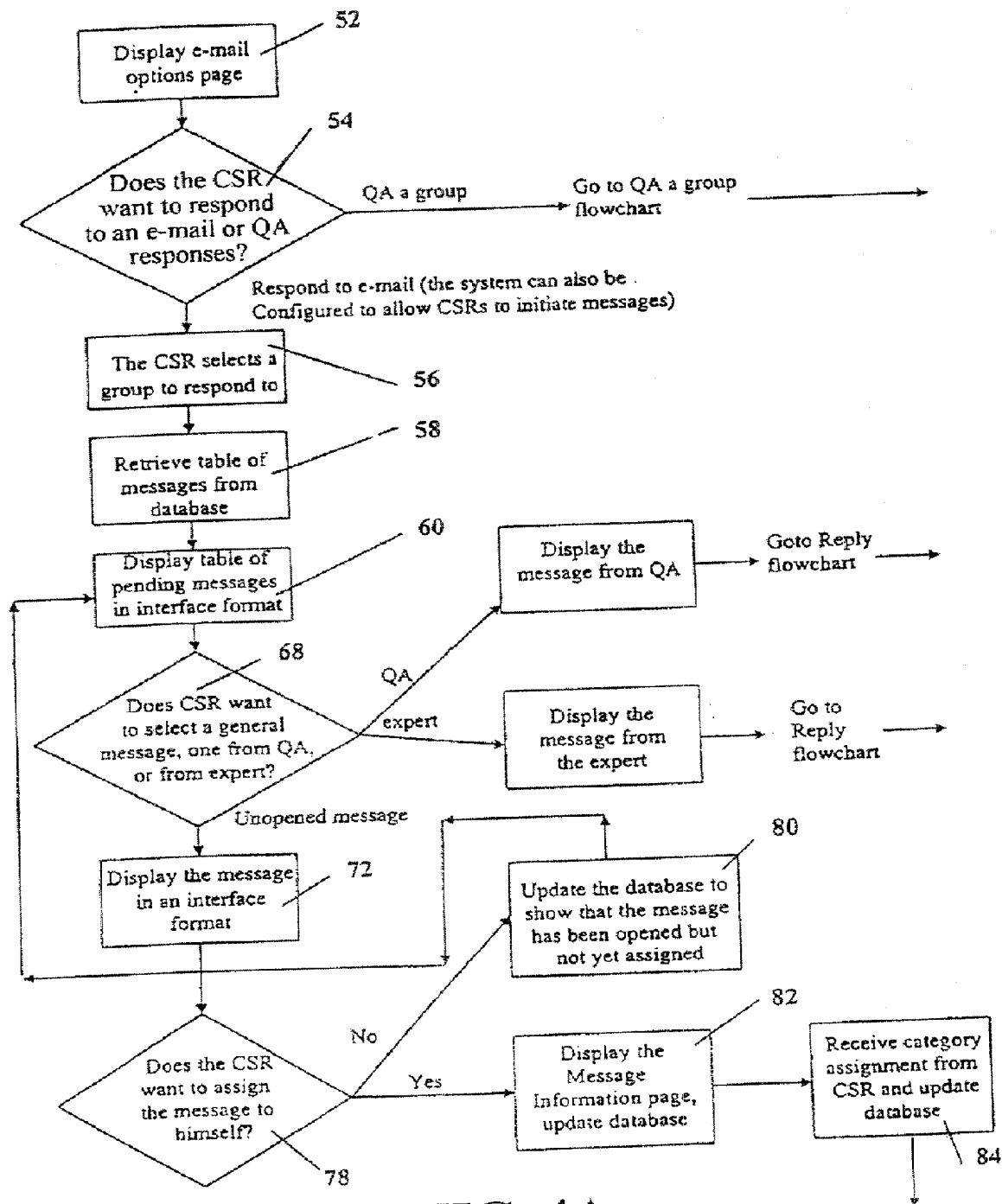


FIG. 4A

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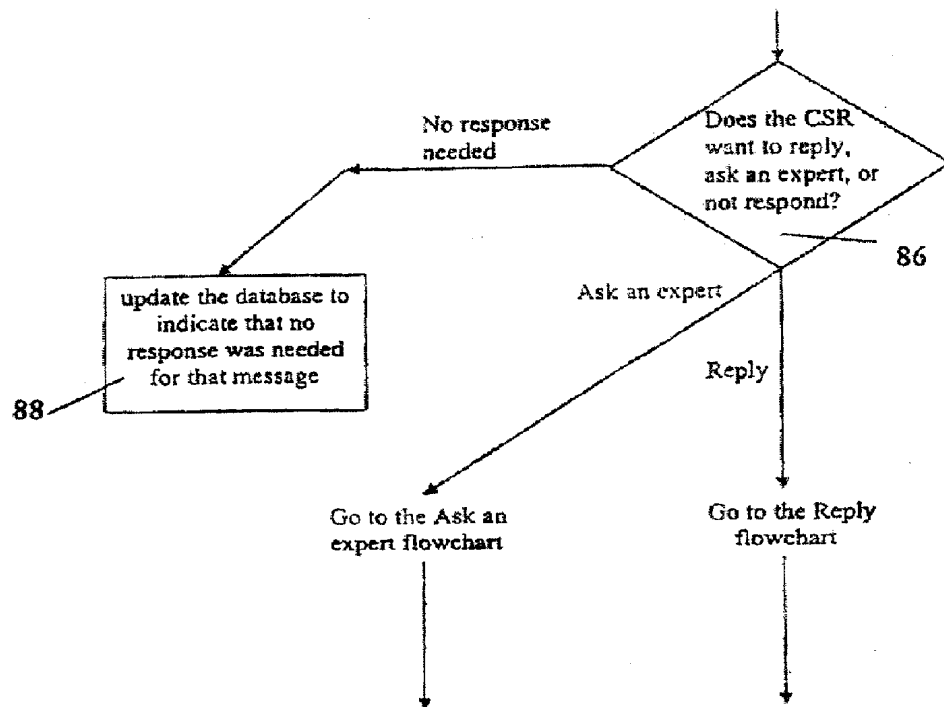
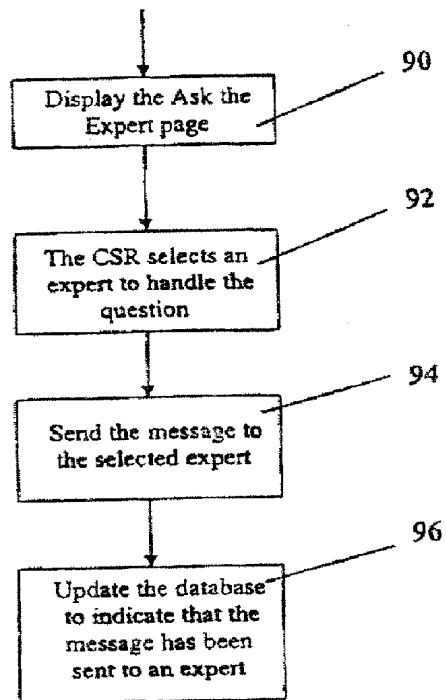


FIG. 4B

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**FIG. 5**

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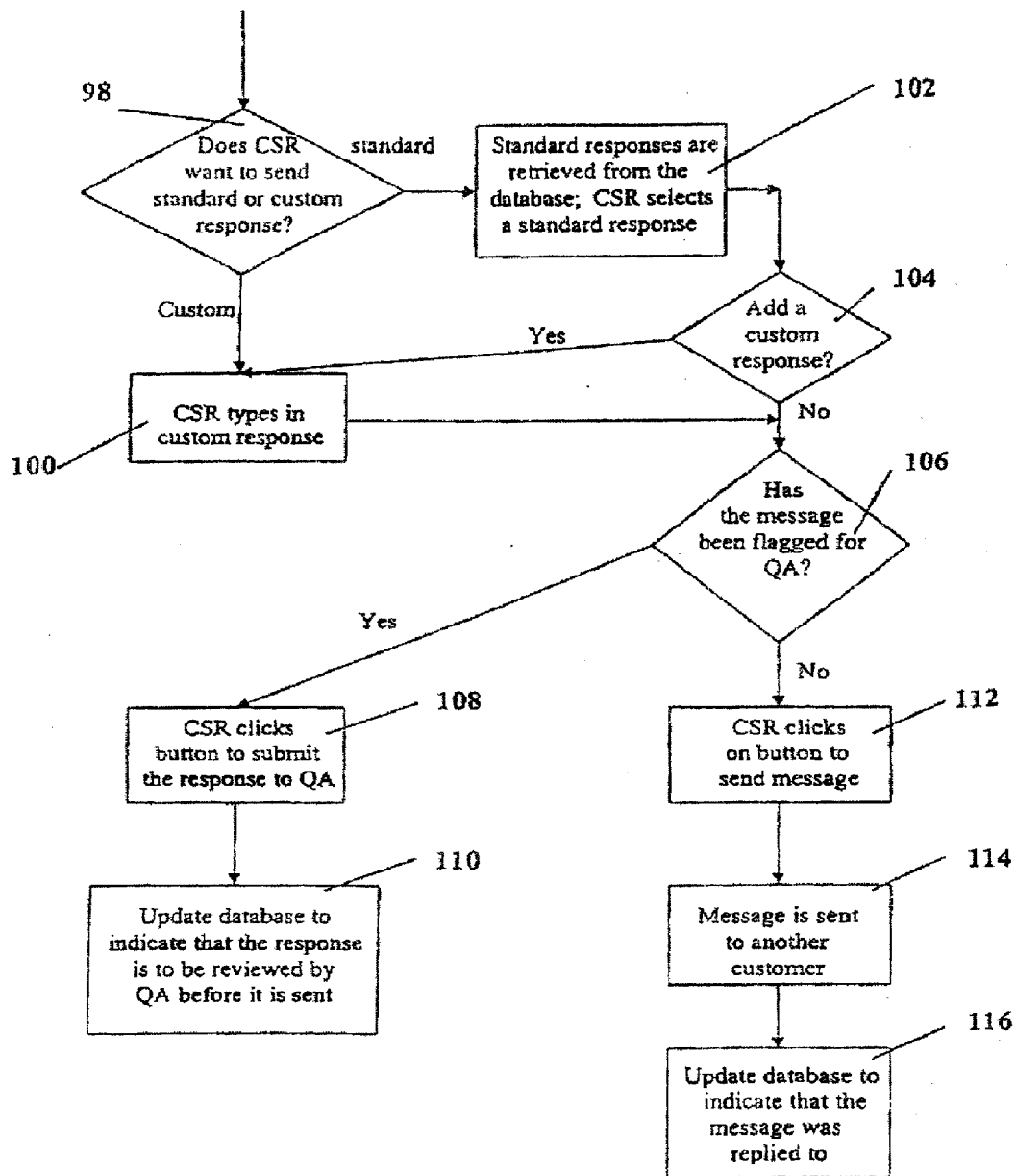


FIG. 6

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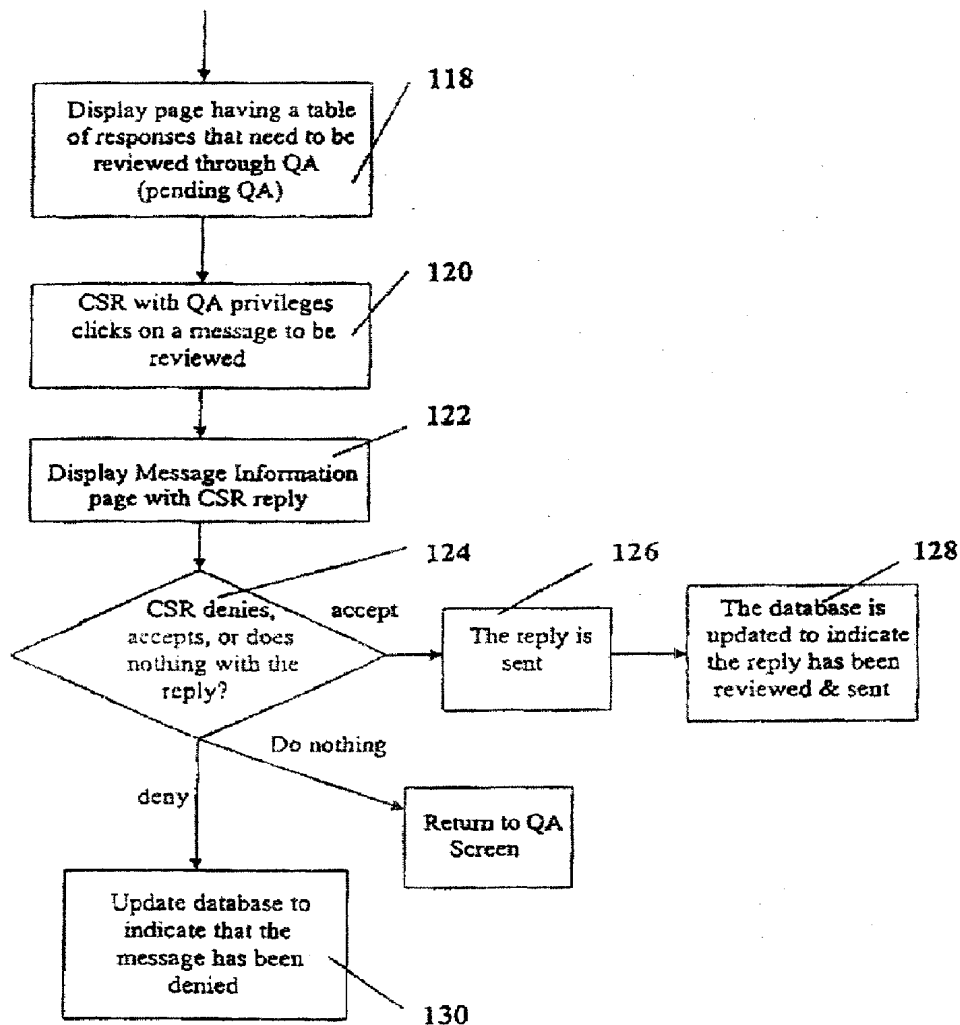


FIG. 7

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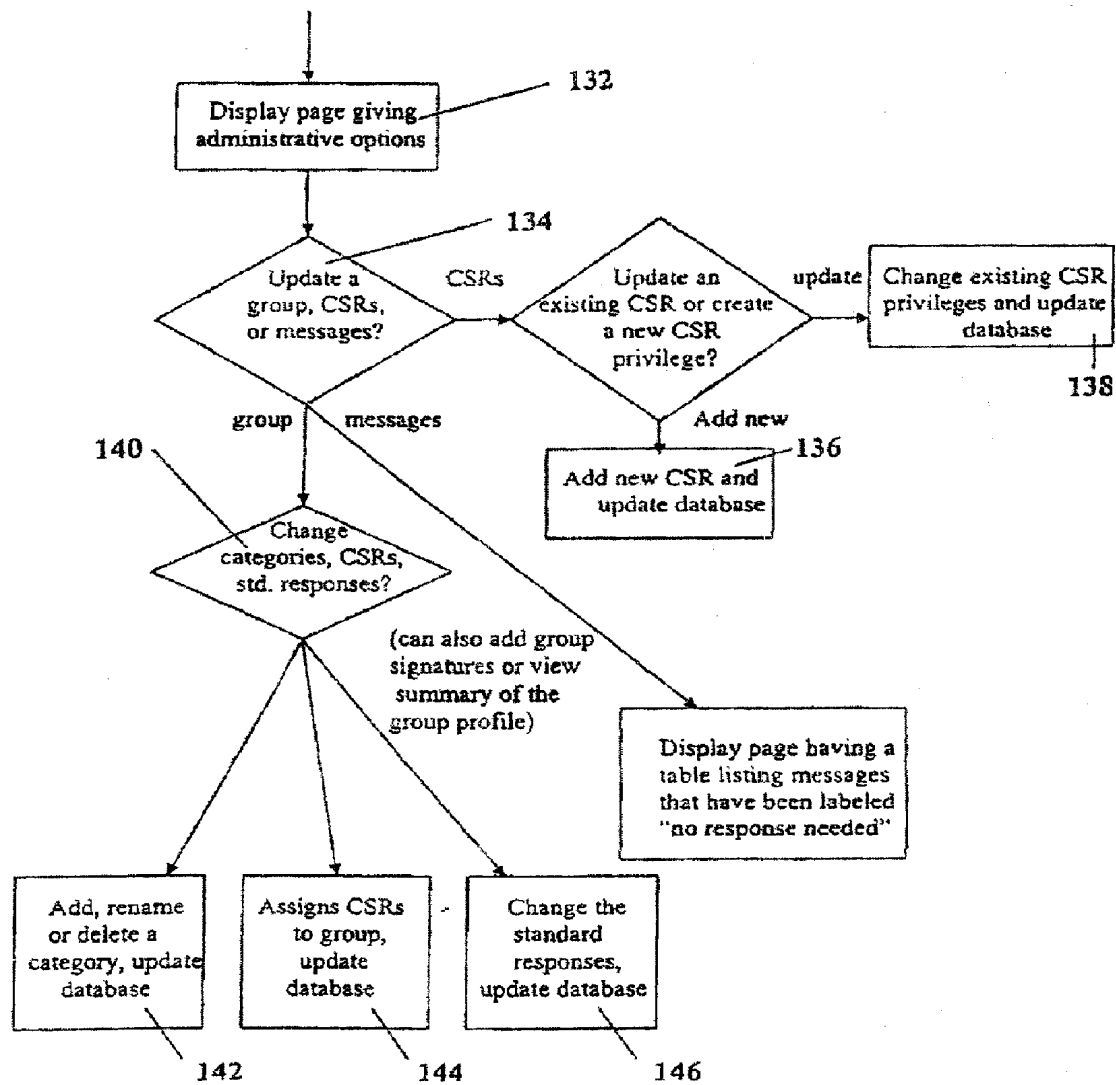


FIG. 8



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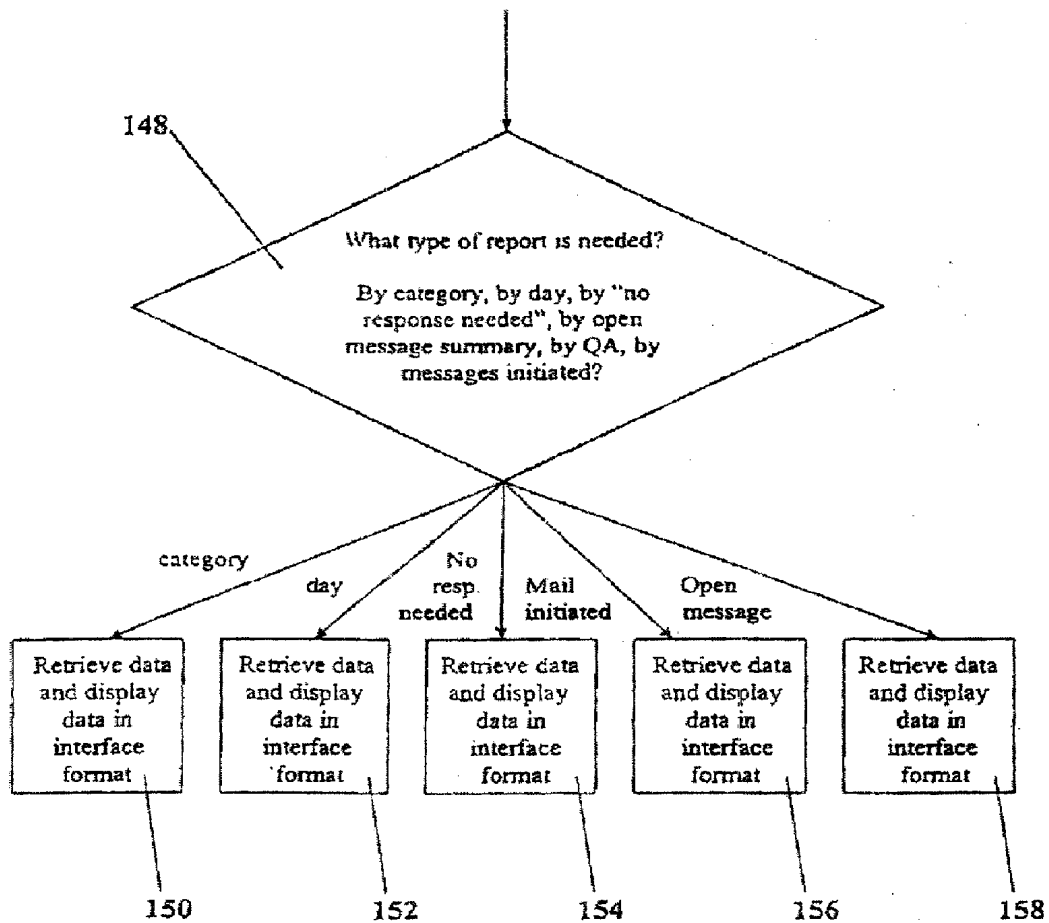


FIG. 9

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CYBERRESPONSE EMAIL MANAGEMENT LOGIN - INTERNET BROWSER										□	X
FILE EDIT VIEW GO FAVORITES HELP											
⏮		⏪		⏩		⏭		⏮		⏭	
BACK		FORWARD		STOP		REFRESH		HOME		SEARCH FAVORITES	
PRINT		FONT		MAIL							
ADDRESS HTTP://206.126.161.12											
LINKS											
CSR LOGIN - SITE											
PLEASE ENTER YOUR CSR ID AND PASSWORD. PRESS LOGIN TO LOGIN.											
ID: KARENMUSSON											
PASSWORD: *****											
LOGIN											

FIG. 10

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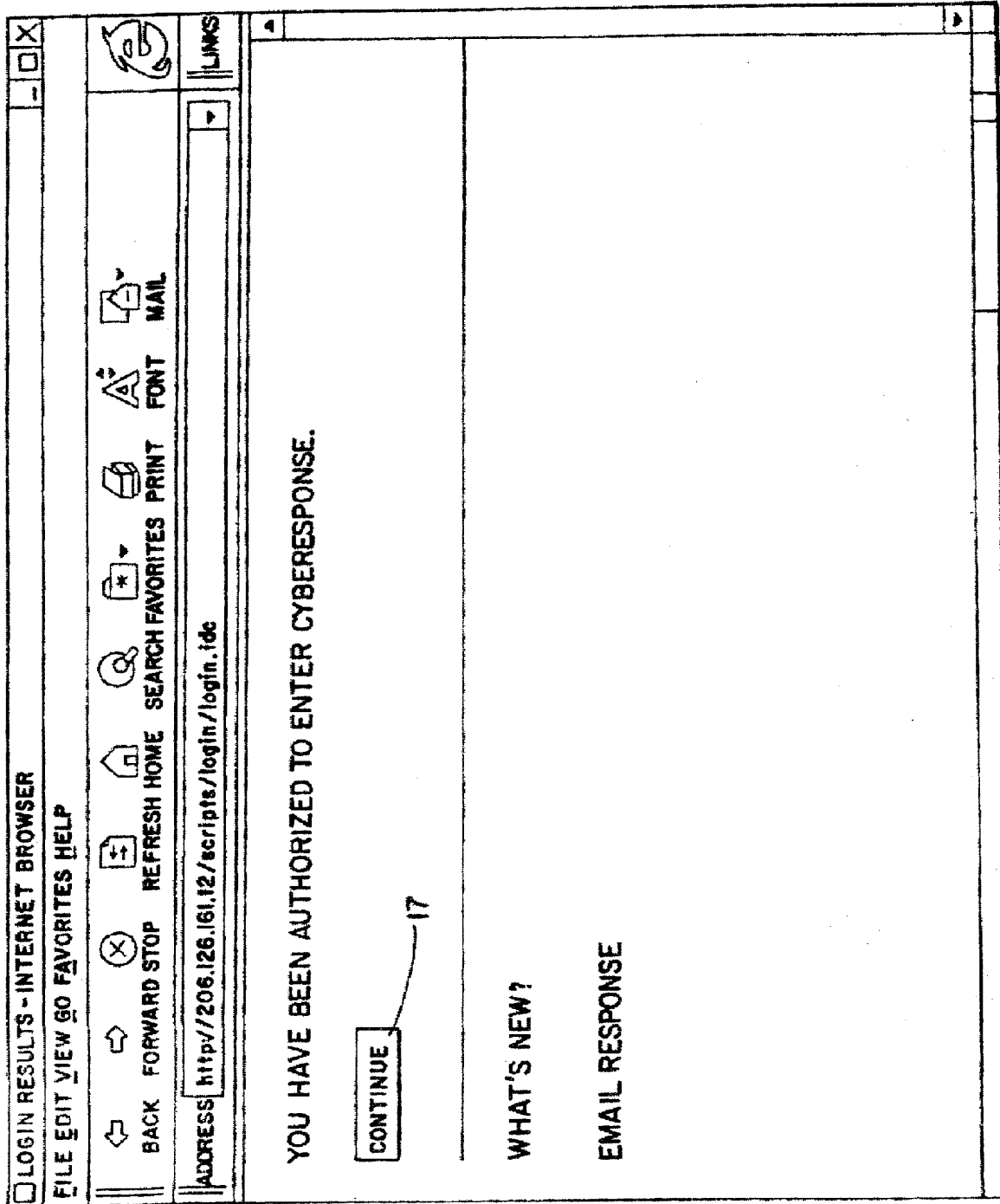
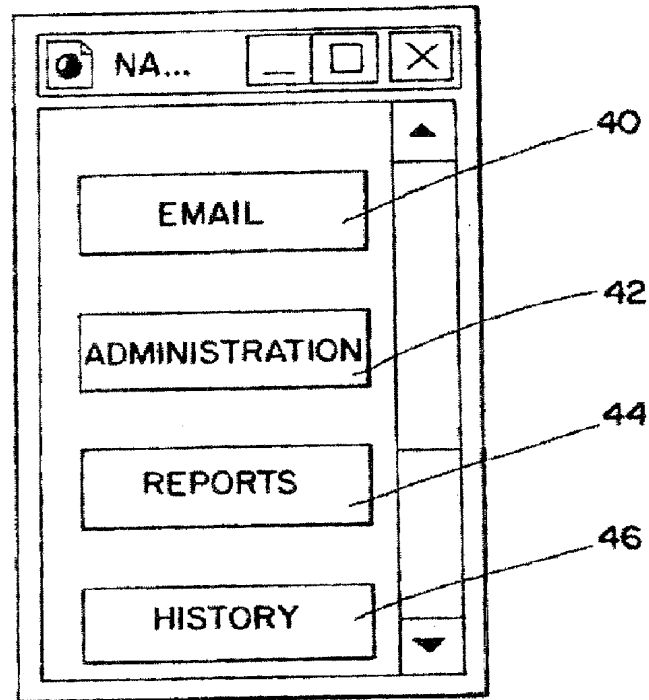


FIG. 11

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**FIG. 12**

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HOME PAGE - INTERNET BROWSER										6:54AM	
<div>EMAIL RESPONSE</div> <div>SELECT A GROUP:</div> <div><input type="radio"/> cyberresponse @ _____.net (7)</div> <div>SELECT A GROUP TO QA:</div> <div><input type="radio"/> cybersponse @ _____.net (0)</div>											
START	CONTR.	DIAL..	MAT...	MICRO...	HO...	NAVI...	MICRO.				

FIG. 13

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GROUP ADDRESS: cyberresponse@\_\_.net

62

MESSAGE	RESPONSE	STATUS	ASSIGNED	RECEIVED	ORIGINATOR SUBJECT
31	42	OPENED	JENNY BOTTS	3/24/1997	KAREN MUSSON(kmusson@__.net) TEST FOR MARSHALL
60	69	OPENED	SHERRI	3/27/1997	JENNY BOTTS(jbotts@__.net) TEST 27
66	84	OPENED	JENNY BOTTS	3/27/1997	JENNY BOTTS(jbotts@__.net) TEST 33
69	78	OPENED	JERRY	3/27/1997	JENNY BOTTS(jbotts@__.net) TEST 36
72	81	OPENED	MARSHALL	3/27/1997	JENNY BOTTS(jbotts@__.net) TEST 39
95	105	OPENED	SHERRI	4/14/1997	KAREN MUSSON(kmusson@__.net) CYBERRESPONSE QUESTION
129	139	OPENED	CKACMARSKY	4/24/1997	CHRIS KACMARSKY(ckacmarsky @__.net) TEST 12
130	140	OPENED	ISD	4/24/1997	CHRIS KACMARSKY(ckacmarsky @__.net) TEST 13
142	152	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM(bexam@__.net) TEST
143	153	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM(bexam@__.net) TEST
144	154	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM(bexam@__.net) TEST
145	155	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM(bexam@__.net) TEST
146	156	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM(bexam@__.net) TEST
147	157	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM(bexam@__.net) TEST

64 QA MESSAGES

MESSAGE	RESPONSE	STATUS	ASSIGNED QA ASSIGNED	RECEIVED	ORIGINATOR SUBJECT
148	158	FROM QA	ISD	5/1/1997	BOB EXAM(bexam@__.net) TEST
149	159	PENDING QA	ISD UNASSIGNED	5/1/1997	BOB EXAM(bexam@__.net) TEST

66

EXPERT MESSAGES

MESSAGE	RESPONSE	STATUS	CSR ASSIGNED EXPERT	RECEIVED	ORIGINATOR SUBJECT
153	163	FROM EXPERT	ISD SHERRI	5/5/1997	KAREN MUSSON(kmusson@__.net) BUSINESS DIVISION QUESTION
161	161	WAIT FOR EXPERT	ISD jbotts@__.net	5/2/1997	TEST(dw@__.net) TEST

http://206.126.161.12/script/response/queued.lde

FIG. 14

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MESSAGE - INTERNET BROWSER		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
MESSAGE INFORMATION			
MESSAGE : IO CSR RESPONDING : KARENMMUSSON TO : cyberresponse@---.net ORIGINATOR : KARENMMUSSON (kmmusson@---.net) RECEIVED : 3/10/1997 SUBJECT : INTERNATIONAL		SELECT ONE OR MORE CATEGORIES, THEN PRESS "APPLY." THE MESSAGE MUST BE CATEGORIZED BEFORE 'REPLY NOW' IS PRESSED <div> <div> CATEGORIES  BENEFITS  OTHER SERVICES  REPORTING  SYSTEM FEATURES  TEST  TRAINING </div> <div>APPLY</div> </div>	
<div>REPLY NOW</div> <div>ASK AN EXPERT</div>		<div>NO RESPONSE NEEDED</div> <div>RETURN TO QUEUED MESSAGES</div>	
MESSAGE: CAN YOU HANDLE INTERNATIONAL AND/OR MULTILINGUAL EMAIL? THANKS			

FIG. 15

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☐ MESSAGE - INTERNET BROWSER

☐ ☐ X

☐ ASK AN EXPERT

☐ dwilson  
☒ JennyBotts  
☐ dwilson@\_\_\_\_.net  
☐ jBotts@\_\_\_\_.net  
☐ kmusson@\_\_\_\_.net

\*\*\*\*\* ORIGINAL MESSAGE \*\*\*\*\*  
 CAN YOU HANDLE INTERNATIONAL AND/OR MULTILINGUAL  
 EMAIL?  
 THANKS

---

JERRY, CAN WE HANDLE INTERNATIONAL IN ALL THE CALL  
 CENTERS OR JUST LOCALLY?

FIG. 16



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MESSAGE RESPONSE -- INTERNET BROWSER		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> X	
RESPONSE FORM <input type="button" value="SUBMIT FOR QA"/> <input type="button" value="SAVE RESPONSE"/>			
DIALOGUE STATUS <input type="radio"/> OPEN <input type="radio"/> CLOSED			
MESSAGE RESPONSE			
ORIGINAL MESSAGE _____ ON MARCH 10, 1997 22:52, KAREN MUSSON (k.musson@____.net) WROTE: CAN YOU HANDLE INTERNATIONAL AND/OR MULTILINGUAL EMAIL? THANKS			
		STANDARD RESPONSES  <input type="checkbox"/> THIS IS A STANDARD RESPONSE TO A SAMPLE MESSAGE. <input checked="" type="checkbox"/> CSRs ARE TRAINED EXPERTS IN CLIENT'S PRODUCTS AND PROPER NETIQUETTE. <input type="checkbox"/> THE CYBERRESPONSE EMAIL MANAGEMENT SYSTEM ENSURES ALL EMAIL INQUIRIES ARE SENT TO A CUSTOMER SERVICE REPRESENTATIVE. <input type="checkbox"/> MESSAGE RESPONSE DATA IS AVAILABLE FOR AD HOC AND STANDARD IMMEDIATE PRODUCTION REPORTING. <input type="checkbox"/> QUALITY CONTROL REPORTS ARE AVAILABLE BY CSR	

FIG. 17

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GROUP ADDRESS: cyberresponse a .....net

MESSAGE	RESPONSE STATUS	ASSIGNED	RECEIVED	ORIGINATOR SUBJECT
15	PENDING QA	SHERRI	3/11/1997	JENNYBOTTS(jbotts@.....com) RESPONSE TIME
65	PENDING QA	DWILSON	3/27/1997	JENNYBOTTS(jbotts@.....net) TEST 32
68	PENDING QA	KARENMUSSON	3/27/1997	JENNYBOTTS(jbotts@.....net) TEST 35
73	PENDING QA	DWILSON	3/27/1997	JENNYBOTTS(jbotts@.....net) TEST 40
75	PENDING QA	DWILSON	4/9/1997	DWILSON(dwilson@.....net) TEST
76	PENDING QA	DWILSON	4/9/1997	DWILSON(dwilson@.....net) TEST 2
77	PENDING QA	DWILSON	4/9/1997	DWILSON(dwilson@.....net) TEST 3
148	PENDING QA	ISD	5/1/1997	BOB EXAM(bexam@.....net) TEST
149	PENDING QA	ISD	5/1/1997	BOB EXAM(bexam@.....net) TEST

FIG. 18

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The image shows a screenshot of an Internet browser window. The title bar at the top reads "ADMIN PAGE - INTERNET BROWSER". The browser's address bar is empty. The main content area is divided into two sections. The first section, titled "SYSTEM ADMINISTRATION", contains a heading "SELECT A SECTION TO UPDATE" followed by three radio button options: "CSR", "GROUP", and "MESSAGES". The second section is a large, empty rectangular area, likely intended for displaying data or a detailed form.

ADMIN PAGE - INTERNET BROWSER

SYSTEM ADMINISTRATION

SELECT A SECTION TO UPDATE

☐ CSR

☐ GROUP

☐ MESSAGES

FIG. 19

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<input type="checkbox"/> ADMINISTRATIVE TASKS - INTERNET BROWSER		<input type="checkbox"/> <input type="checkbox"/> X			
<div style="text-align: center; margin-bottom: 20px;"> <b>UPDATE CSR</b> </div> <p>COMPLETE THE FORM AND PRESS "APPLY" TO CHANGE THE CSR INFORMATION.</p> <p>CSR ID                      KARENMUSSON</p> <p>PASSWORD                      <input style="width: 100px;" type="password" value="XXXXX"/></p> <p>CONFIRM PASSWORD                      <input style="width: 100px;" type="password" value="XXXXX"/></p> <hr/> <p><b>CSR PRIVILEGES</b></p> <p>MAY THE CSR ADMINSTR DATABASE TABLES?                      <input type="radio"/> NO <input checked="" type="radio"/> YES</p> <p>MAY THE CSR GENERATE REPORTS?                      <input type="radio"/> NO <input checked="" type="radio"/> YES</p> <p>MAY THE CSR PERFORM FINAL QA ON MESSAGE RESPONSES? <input type="radio"/> NO <input checked="" type="radio"/> YES</p> <p>DOES THE CSR QUALIFY AS AN EXPERT?                      <input type="radio"/> NO <input checked="" type="radio"/> YES</p> <p>MAY THE CSR MARK A MESSAGE AS "NO RESPONSE NECESSARY"?                      <input type="radio"/> NO <input checked="" type="radio"/> YES</p> <p>DO THE CSR RESPONSES NEED QA                      <input type="radio"/> NO <input checked="" type="radio"/> YES</p> <hr/> <p><b>GROUP PERMISSIONS</b></p> <p>SELECT THE GROUP ADDRESS FOR WHICH THE CSR MAY RESPOND TO MESSAGES.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">NONE</td> <td style="width: 50%; padding: 2px;">cyberresponse@____.net</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> </table>	NONE	cyberresponse@____.net			<div style="text-align: center; margin-bottom: 20px;"> <b>CSR ADMIN</b> </div> <p>SELECT NEW TO ADD A NEW CSR. OR, SELECT A CSR TO UPDATE.</p> <p> <input type="radio"/> NEW  <input type="radio"/> DWILSON  <input type="radio"/> JENNYBOTTS  <input checked="" type="radio"/> KARENMUSSON       </p>
NONE	cyberresponse@____.net				

FIG. 20

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ADMINISTRATIVE TASKS - INTERNET BROWSER				GROUP ADMIN	
cyberresponse@____.net				SELECT A GROUP TO UPDATE.	
cyberresponse@____.net				cyberresponse@____.net	
CATEGORY CSRs STANDARD RESPONSE SIGNATURE VIEW GROUP					
CURRENT CATEGORIES					
BENEFITS		RENAME	DELETE		
OTHER SERVICES		RENAME	DELETE		
REPORTING		RENAME	DELETE		
SYSTEM FEATURES		RENAME	DELETE		
TEST		RENAME	DELETE		
ADD CATEGORY				ADD	
DELETED CATEGORIES					

FIG. 21

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<input type="checkbox"/> ADMINISTRATIVE TASK - INTERNET BROWSER		<input type="checkbox"/> <input type="checkbox"/> X					
cyberresponse@____.net		GROUP ADMIN SELECT A GROUP TO UPDATE. <input type="radio"/> cyberresponse @____.net					
CATEGORY	CSRs	STANDARD RESPONSE	SIGNATURE				
CSR PERMISSIONS		VIEW GROUP					
<table border="1"> <tr> <td>NONE</td> </tr> <tr> <td>DWILSON</td> </tr> <tr> <td>JENNYBOTT</td> </tr> <tr> <td>KARENIMUSSON</td> </tr> </table>		NONE	DWILSON	JENNYBOTT	KARENIMUSSON	HIGHLIGHTED CSRs ARE THE CURRENT CSRs THAT MAY RESPOND TO EMAIL ADDRESSED TO cyberresponse@____.net. CLICK ON A CSR TO ADD OR REMOVE THE CSR FROM THE CURRENT LISTING. USING SHIFT+CLICK OR CTRL+CLICK WILL ALLOW MULTIPLE CSRs TO BE SELECTED OR DESELECTED. CSR PERMISSIONS CAN ALSO BE ASSIGNED/REVOKED IN CSR ADMINISTRATION. AFTER CSRs HAVE BEEN CHOSEN, PRESS "APPLY" TO SUBMIT THE CHANGES.	
NONE							
DWILSON							
JENNYBOTT							
KARENIMUSSON							
		APPLY					

FIG. 22

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ADMINISTRATIVE TASKS - INTERNET BROWSER		GROUP ADMIN	
cyberresponse @ _____.net		SELECT A GROUP TO UPDATE.	
CATEGORY	CSRs	STANDARD RESPONSE	SIGNATURE
STANDARD RESPONSES		cyberresponse @ _____.net	
ADD			
UPDATE		THIS IS A STANDARD RESPONSE TO A SAMPLE MESSAGE.	
DELETE			
UPDATE		CSRs ARE TRAINED EXPERTS IN CLIENT'S PRODUCTS AND PROPER NETIQUETTE.	
DELETE			
UPDATE		THE CYBERRESPONSE EMAIL MANAGEMENT SYSTEM ENSURES ALL EMAIL INQUIRIES ARE SENT TO A CUSTOMER SERVICE REPRESENTATIVE.	
DELETE			
UPDATE		MESSAGE/RESPONSE DATA IS AVAILABLE FOR AD HOC AND	

FIG. 23

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ADMINISTRATIVE TASKS--INTERNET BROWSER			
cyberresponse@____.net		GROUP ADMIN	
CATEGORY	CSRs	STANDARD RESPONSE	SIGNATURE
SIGNATURE		SELECT A THEME TO UPDATE.	
THANK YOU FOR CONTACTING _____		cyberresponse@____.net	
APPLY			

FIG. 24



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<input type="checkbox"/> ADMINISTRATIVE TASKS - INTERNET BROWSER		<input type="checkbox"/> - <input type="checkbox"/> X	
cyberresponse@____.net <input type="button" value="CATEGORY"/> <input type="button" value="CSRs"/> <input type="button" value="STANDARD RESPONSE"/> <input type="button" value="SIGNATURE"/> <input type="button" value="VIEW GROUP"/>		GROUP ADMIN SELECT A GROUP TO UPDATE. <input checked="" type="radio"/> cyberresponse@____.net	
CATEGORIES BENEFITS OTHER SERVICES REPORTING SYSTEM FEATURES TEST		CSR PERMISSIONS DWILSON JENNY BOTTS KAREN MUSSON	
SIGNATURE NO SIGNATURES			
STANDARD RESPONSES I. THIS IS A STANDARD RESPONSE TO A SAMPLE MESSAGE.			

FIG. 25

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REPORTS PAGE - INTERNET BROWSER	
<b>GENERATE REPORTS</b>	
<b>SELECT A REPORT</b>	
<b>REPORT NAME</b>	<b>REPORT CONTENTS</b>
<b>CATEGORY</b>	<ul style="list-style-type: none"> <li>• THE NUMBER OF RESPONSES PER CATEGORY</li> </ul>
<b>DAILY</b>	<ul style="list-style-type: none"> <li>• NUMBER OF MESSAGES RECEIVED AND RESPONSES SENT DURING A DAY.</li> <li>• NUMBER OF MESSAGES WITHIN AND EXCEEDING QUALITY ASSURANCE STANDARDS</li> </ul>
<b>NO RESPONSE NEEDED</b>	<ul style="list-style-type: none"> <li>• MESSAGES THAT HAVE BEEN MARKED AS NO RESPONSE NECESSARY</li> </ul>
<b>OPEN MESSAGE</b>	<ul style="list-style-type: none"> <li>• MESSAGES THAT HAVE AN OPEN DIALOGUE STATUS</li> </ul>
<b>QA</b>	<ul style="list-style-type: none"> <li>• MESSAGES TO CSRs REGARDING QA</li> </ul>
<b>REPLIES</b>	<ul style="list-style-type: none"> <li>• AN EMAIL MESSAGE</li> </ul>

FIG. 26

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<input type="checkbox"/> REPORTS PAGE - INTERNET BROWSER		<input type="checkbox"/> X
<div>DAILY</div> <ul style="list-style-type: none"> <li>NUMBER OF MESSAGES RECEIVED AND RESPONSES SENT DURING A DAY</li> <li>NUMBER OF MESSAGES WITHIN AND EXCEEDING QUALITY ASSURANCE STANDARDS</li> </ul>		
<div>NO RESPONSE NEEDED</div> <ul style="list-style-type: none"> <li>MESSAGES THAT HAVE BEEN MARKED AS NO RESPONSE NECESSARY</li> </ul>		
<div>OPEN MESSAGE</div> <ul style="list-style-type: none"> <li>MESSAGES THAT HAVE AN OPEN DIALOGUE STATUS</li> </ul>		
<div>QA</div> <ul style="list-style-type: none"> <li>MESSAGES TO CSRs REGARDING QA</li> </ul>		
<div>REPLIES</div> <ul style="list-style-type: none"> <li>AN EMAIL MESSAGE</li> <li>REPLIES TO A MESSAGE</li> </ul>		
<div>RESPONSE TIME</div> <ul style="list-style-type: none"> <li>THE TIME A MESSAGE WAS RECEIVED, OPENED AND SENT</li> <li>THE TIME BETWEEN THE MESSAGE BEING RECEIVED AND THE MESSAGE BEING OPENED</li> <li>THE TIME BETWEEN THE MESSAGE BEING OPENED AND THE REPLY BEING SENT</li> <li>THE TIME BETWEEN THE MESSAGE BEING RECEIVED AND THE REPLY BEING SENT</li> <li>IF THE TIME BETWEEN THE MESSAGE BEING RECEIVED AND REPLIED TO FAILS TO MEET QUALITY ASSURANCE STANDARDS</li> </ul>		

FIG. 27

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NO RESPONSE NEEDED REPORT QUERY FORM -- INTERNET BROWSER	
<b>NO RESPONSE NEEDED REPORT</b>	
COMPLETE THE FORM TO INDICATE THE GROUP ADDRESS AND THE TIME FRAME FOR THE REPORT TO BE GENERATED	
1. SELECT A GROUP ADDRESS	
<input checked="" type="radio"/> cyberresponse @_____.net	
2. SELECT A DATE RANGE (DATE RECEIVED)	
FROM:	MARCH 10 1997
TO:	MARCH 11 1997
<b>SUMMARY REPORT</b>	

FIG. 28

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<input type="checkbox"/> NO RESPONSE NEEDED SUMMARY - INTERNET BROWSER			
<b>NO RESPONSE NEEDED SUMMARY</b>			
MESSAGES SENT TO cyberresponse@____.net FOR DATES 03/10/1997 12:00AM TO 03/11/1997 11:59 PM			
RECEIVED	MARKED NRN	CSRID	ORIGINATOR
3/10/1997	3/10/1997	KAREN MUSSON	kmusson@____.net
		SUBJECT	
		TEST MESSAGE FROM WEB PAGE	
TOTAL NO RESPONSE NEEDED MESSAGES			
<a href="#">QUERY PAGE</a>			

FIG. 29

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OPEN MESSAGE SUMMARY - INTERNET BROWSER				
OPEN MESSAGE SUMMARY				
MESSAGE SENT TO cyberresponse@____.net				
STATUS	RECEIVED	CSR ASSIGNED	ORIGINATOR	SUBJECT
▶ OPENED	3/10/1997	DWILSON	dwilson@____.net	SAMPLE MESSAGE
▶ OPENED	3/10/1997	JENNYBOTTS	jbotts@____.net	TEST 03/10/97
▶ UNOPENED	3/10/1997		jbotts@____.net	DO YOU ANSWER THE EMAILS?
▶ UNOPENED	3/10/1997		jbotts@____.net	CYBERRESPONSE LOCATION
▶ OPENED	3/10/1997	KARENMUSSON	jbotts@____.net	REPORTING
▶ WAIT FOR EXPERT	3/10/1997	KARENMUSSON	jbotts@____.net	THRESHOLD
▶ UNOPENED	3/10/1997		kmusson@____.net	QUESTION ABOUT CYBERRESPONSE
▶ UNOPENED	3/10/1997		kmusson@____.net	CYBERRESPONSE SERVICE
▶ OPENED	3/10/1997	KARENMUSSON	kmusson@____.net	INTERNATIONAL
▶ UNOPENED	3/10/1997		kmusson@____.net	_____ QUESTION
TOTAL OPEN MESSAGES				10
QUERY PAGE				

FIG. 30

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REPLIES REPORT								
<p>COMPLETE FORM TO INDICATE THE MESSAGE ADDRESSES, THE CSR, THE TIME FRAME FOR WHICH THE REPORT IS TO BE GENERATED. PRESS "GET REPORT" TO RETRIEVE THE REPORT.</p>								
<p>MESSAGES SENT TO</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">ALL ADDRESSES</td> </tr> <tr> <td style="padding: 2px;">cyberresponse@____.com</td> </tr> <tr> <td style="height: 20px;"></td> </tr> </table>	ALL ADDRESSES	cyberresponse@____.com		<p>CSR</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">ALL CSRs</td> </tr> <tr> <td style="padding: 2px;">JENNYBOTTS</td> </tr> <tr> <td style="padding: 2px;">KARENMUSSON</td> </tr> <tr> <td style="height: 20px;"></td> </tr> </table>	ALL CSRs	JENNYBOTTS	KARENMUSSON	
ALL ADDRESSES								
cyberresponse@____.com								
ALL CSRs								
JENNYBOTTS								
KARENMUSSON								
<p>FOR DATES:</p> <p><input checked="" type="radio"/> RANGE (THE DATE(S) MESSAGE WAS RECEIVED)</p> <div style="display: flex; justify-content: space-between;"> <div> <p>FROM: <span style="border: 1px solid black; padding: 2px;">SEPTEMBER</span> <span style="border: 1px solid black; padding: 2px;">1</span> <span style="border: 1px solid black; padding: 2px;">1996</span></p> <p>TO: <span style="border: 1px solid black; padding: 2px;">SEPTEMBER</span> <span style="border: 1px solid black; padding: 2px;">30</span> <span style="border: 1px solid black; padding: 2px;">1996</span></p> </div> </div> <p><input type="radio"/> CUMULATIVE</p> <p style="text-align: center; margin-top: 20px;"><span style="border: 1px solid black; padding: 5px;">GET REPORT</span></p>								

FIG. 31

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RESPONSE TIME REPORT	
COMPLETE THE FORM TO INDICATE THE MESSAGE ADDRESS AND THE TIME FRAME FOR THE REPORT TO BE GENERATED.	
MESSAGES SENT TO	
<input type="radio"/> cyberresponse@____.com	
FOR DATES:	
<input type="radio"/> RANGE (THE DATE(S) THE MESSAGE WAS RECEIVED)	
FROM:	<div><div>AUGUST</div><div>1</div><div>1996</div></div>
TO:	<div><div>SEPTEMBER</div><div>30</div><div>1996</div></div>
<input type="radio"/> CUMULATIVE	
QA STANDARD	
ENTER THE ACCEPTABLE NUMBER OF HOURS BETWEEN A MESSAGE BEING RECEIVED AND A REPLY BEING SENT:	
<div>48</div>	
<div>GET REPORT</div>	

FIG. 32



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<b>RESPONSE TIME REPORT</b>	
MESSAGES SENT TO cyberresponse@.....com	
QA STANDARD: MORE THAN 48 HOURS BETWEEN MESSAGE RECEIPT AND REPLY EXCEEDS STANDARD ALL DATES	
<b>SUMMARY</b>	
<b>QA STANDARD</b>	
31 OF 31 RECORDS (100%) WITHIN QA STANDARD	
0 OF 31 RECORDS (0%) EXCEED QA STANDARD	
<b>TIME BETWEEN RECEIVED AND OPENED</b>	
AVERAGE:	8 HOURS
TOTAL:	236 HOURS
MAXIMUM:	93 HOURS
MINIMUM:	0 HOURS
<b>TIME BETWEEN OPENED AND REPLIED</b>	
AVERAGE:	0 HOURS
TOTAL:	1 HOURS
MAXIMUM:	1 HOURS
MINIMUM:	0 HOURS
<b>TIME BETWEEN RECEIVED AND REPLIED</b>	
AVERAGE:	1 HOURS
TIME:	28 HOURS
MAXIMUM:	3 HOURS
MINIMUM:	0 HOURS

FIG. 33

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DETAIL MESSAGE NUMBER	RECEIVED	OPENED	REPLIED	TIME (IN HOURS) BETWEEN			
				RECEIVED	OPENED	REPLIED	REPLIED
54	Sep 23 1996 16:43						
57	Sep 25 1996 15:56	Sep 25 1996	Sep 25 1996	1	0	1	1
58	Sep 25 1996 17:38	Sep 25 1996	Sep 25 1996	1	0	1	1
59	Sep 25 1996 18:41	Sep 25 1996	Sep 25 1996	0	0	0	0
60	Sep 25 1996 18:51	Sep 25 1996	Sep 25 1996	1	0	1	1
61	Sep 25 1996 19:04	Sep 25 1996	Sep 25 1996	0	0	0	0
62	Sep 25 1996 19:10	Sep 25 1996	Sep 25 1996	0	0	0	0
63	Sep 26 1996 08:19	Sep 26 1996	Sep 26 1996	1	1	2	2
64	Sep 26 1996 08:19	Sep 26 1996	Sep 26 1996	0	0	0	0
65	Sep 26 1996 10:05	Sep 26 1996	Sep 26 1996	0	0	0	0
66	Sep 26 1996 10:24	Sep 26 1996	Sep 26 1996	0	0	0	0
67	Sep 26 1996 13:39	Sep 26 1996	Sep 26 1996	2	0	2	2
68	Sep 26 1996 13:40	Sep 30 1996	Sep 30 1996	91			
69	Sep 26 1996 13:42	Sep 26 1996	Sep 26 1996	2	0	2	2
70	Sep 26 1996 13:45	Sep 26 1996	Sep 26 1996	2	0	2	2
71	Sep 26 1996 13:46	Sep 27 1996	Sep 27 1996	19			
72	Sep 26 1996 13:52	Sep 26 1996	Sep 26 1996	2	0	2	2
73	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	2	2
74	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	3	0	3	3
75	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	2	2
76	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	2	2
77	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	2	2
78	Sep 26 1996 13:56	Sep 30 1996	Sep 30 1996	93			
79	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	2	2
80	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	2	2

FIG. 34